

# Proceedings of the Indian Academy of Sciences (Earth and Planetary Sciences)

Volume 94, 1985

## CONTENTS

Tracing quartz through the environment	<i>D Lal and J R Arnold</i>	1
Comparison of electron density models with incoherent scatter radar observations at the equator	<i>B T Vikram Kumar and P B Rao</i>	7
Hydrography and circulation off the Antarctica in the Indian Ocean region	<i>G S Sharma and Basil Mathew</i>	13
Quasi-biennial oscillation in geomagnetic disturbance field	<i>G K Rangarajan</i>	29
Vertical component MAGSAT anomalies and Indian tectonic boundaries	<i>J G Negi, P K Agrawal and N K Thakur</i>	35
The Mannapra syenite, Central Kerala, India: Geochemistry, petrogenesis and bearing on anorogenic magmatism	<i>M Santosh and K G Thara</i>	43
Petrology of thermally metamorphosed pelitic rocks in the Champawat Area, Kumaun Himalaya	<i>Brijraj K Das</i>	57
Analysis of gravity gradients over a thin infinite sheet	<i>G D J Sivakumar Sinha and H V Ram Babu</i>	71
Detection of large scale electron density irregularities during IPS observations at 103 MHz	<i>S K Alurkar, H O Vats, R V Bhonsle and A K Sharma</i>	77
Basal flow rate of Changme-Khangpu glacier, Sikkim Himalaya based on $^{32}\text{Si}$ and $^{210}\text{Pb}$ chronology	<i>V N Nijampurkar</i>	83
An analytical technique for rapid determination of surface rock density	<i>G Ramadass, S M Varaprasada Rao and M S Vijaya Raghava</i>	91
Preliminary studies on the geochemistry of the Cauvery river basin	<i>V Subramanian, L Van t'Dack and R Van Grieken</i>	99
Anomaly map of Z component of the Indian sub-continent from magnetic satellite data	<i>M G Arur, P S Bains and Jeevan Lal</i>	111
Summer cooling of the Arabian Sea—a review	<i>J S Sastry and V Ramesh Babu</i>	117
Monthly-mean wind stress along the coast of the north Indian Ocean	<i>Satish R Shetye, S Sathesh Chandra Sheno, M K Antony and V Krishna Kumar</i>	129
Global temperature changes: relative importance of greenhouse constituents of the atmosphere as calculated with a 1-d radiative-convective model	<i>M Lal and K C S Rao</i>	139

Interaction of monsoon with northern hemisphere mid-latitude circulation <i>S T Awade, M Y Totagi and S M Bawiskar</i>	147
Short range prediction with a multi-level primitive equation model <i>S S Singh</i>	159
Correction of the paper "A study of meteorite falls" <i>Frans E Wickman and Carl D Palmer</i>	185
Interannual and long-term variability of the summer monsoon and its possible link with northern hemispheric surface air temperature <i>R K Verma, K Subramaniam and S S Dugam</i>	187
Relationship between all-India summer monsoon rainfall and southern oscillation/eastern equatorial pacific sea surface temperature <i>D A Mooley, B Parthasarathy and N A Sontakke</i>	199
Global features of upper-tropospheric zonal wind and thermal fields during anomalous monsoon situations <i>L S Hingane, S D Patil and K Rupa Kumar</i>	211
The sensitivity of the northern hemisphere summer mean meridional circulation to changes in the large scale eddy forcing <i>B N Goswami</i>	219
Remote sensing of atmospheric water vapour from Bhaskara II SAMIR data and its comparison with NOAA-7 water vapour data <i>P N Pathak, B S Gohil and A Sarkar</i>	237
A study on the sensitivity of the radar scattering coefficient to oceanic winds <i>Abhijit Sarkar and Raj Kumar</i>	249
HF doppler observations on the occurrence of equatorial spread-F <i>B T Vikram Kumar, P Velayudhan Nair and P B Rao</i>	261
Transient electromagnetic response due to a pair of horizontal conducting sheets in a loop field <i>R Nagendra, I B Ramaprasada Rao and Satyanarayan Kabra</i>	269
Emission spectrographic estimation of gold <i>K C Joseph</i>	279
Oxygen and hydrogen isotopic ratios in groundwaters and river waters from India <i>S K Bhattacharya, S K Gupta and R V Krishnamurthy</i>	283
Geochemistry of bauxites of Belgaum (Karnataka) and Yeracaud (Tamil Nadu) areas <i>J N Pattan and S M Appangoudar</i>	297
The Purimetla gabbros, Prakasam District, Andhra Pradesh, India <i>J Ratnakar and C Leelanandam</i>	305
Framboidal pyrite from Mussoorie phosphorite and its geological implication <i>S C Tripathi</i>	315
A study of the monsoonal beach processes around Alleppey, Kerala <i>N P Kurian, T S Shahul Hameed and M Baba</i>	323
<i>Subject Index</i>	333
<i>Author Index</i>	338